

1. A closure for a container adapted to contain a liquid comprising:

a base adapted to be attached to an opening of a liquid container, the base including a conduit extending therethrough that is adapted to be in fluid communication with liquid contents of the liquid container when attached to the opening of the liquid container, and the base further including a substantially tubular spout guide defining at least a portion of the conduit, the base further including an annular deck extending radially inwardly from an inner circumferential surface of the base defining a central orifice in fluid communication with the conduit; and

a substantially annular spout mounted to the tubular spout guide for reciprocation at least between an open position and a closed position, the spout including (a) an annular wall and (b) a plug positioned radially within the annular wall;

the plug having a leading end and an annular, outer circumferential seal surface that is received within, and plugs the central orifice of the deck when the spout is in the closed position and that is removed from the central orifice deck when the spout is in the open position;

at least a substantial portion of the outer circumferential seal surface of the plug being axially recessed or flush with respect to the annular wall of the spout, whereby the annular wall of the spout protects the substantial portion of the seal surface from damage during the molding and assembly operations; and

the outer circumferential seal surface having a shape taken from a group consisting of: (i) a smooth cylindrical shape having a substantially constant diameter, and (ii) a smooth frustoconical shape having a diameter that widens with the distance from the leading end, whereby the plug is less

susceptible to damage when the spout is axially ejected from a mold after a molding operation.

2. The closure of claim 1, wherein the annular wall of the spout is an outer annular wall of the spout.

3. The closure of claim 1, wherein the spout is threaded to the tubular spout guide so that the spout is twisted with respect to the base to reciprocate the spout between the open and closed positions.

4. The closure of claim 1, wherein the base includes:

an internally threaded, substantially cylindrical wall for threading onto a throat of a correspondingly threaded container; and

an annular top surface extending radially inwardly from the internally threaded, substantially cylindrical wall;

wherein the tubular spout guide extends coaxially upwardly from the annular top surface; and

wherein the annular deck extends from an inner circumferential surface of one of (x) the internally threaded, substantially cylindrical wall, (y) the annular top surface, and (z) the tubular spout guide.

5. The closure of claim 4, wherein the deck has a shape in an elevational cross section taken from a group consisting of:

a substantially concave shape; and

a substantially convex shape.

6. The closure of claim 5, wherein the deck is flexible and substantially resilient.

7. A closure for a container adapted to contain a liquid comprising:
a base adapted to be attached to an opening of a liquid container, the base including a conduit extending therethrough that is adapted to be in fluid communication with liquid contents of the liquid container when attached to the opening of the liquid container, and the base further including a substantially tubular spout guide defining at least a portion of the conduit and a plug positioned radially within the tubular spout guide; and

a substantially annular spout mounted to the tubular spout guide for reciprocation at least between an open position and a closed position, the spout including an annular wall and an annular deck extending radially inwardly from an upper end of the annular wall forming a central orifice;

the plug having a leading end and an annular, outer circumferential seal surface that is received within, and plugs the central orifice of the deck when the spout is in the closed position and that is removed from the central orifice deck when the spout is in the open position;

at least a substantial portion of the outer circumferential seal surface of the plug being axially recessed or flush with respect to the tubular spout guide, whereby the tubular spout guide protects the substantial portion of the seal surface from damage during the molding and assembly operations.

8. The closure of claim 7, wherein the outer circumferential seal surface has a shape taken from a group consisting of: (i) a smooth cylindrical shape having a substantially constant diameter, and (ii) a smooth frustoconical

shape having a diameter that widens with the distance from the leading end, whereby the plug is less susceptible to damage when the base is axially ejected from a mold after a molding operation.

9. The closure of claim 7, wherein the spout is threaded to the tubular spout guide so that the spout is twisted with respect to the base to reciprocate the spout between the open and closed positions.

10. The closure of claim 7, wherein the base includes:
an internally threaded, substantially cylindrical wall for threading onto a throat of a correspondingly threaded container; and
an annular top surface extending radially inwardly from the internally threaded, substantially cylindrical wall;
wherein the tubular spout guide extends coaxially upwardly from the annular top surface; and
wherein the plug extends coaxially within the tubular spout guide from at least one bridge extending from the tubular spout guide.

11. The closure of claim 7, wherein the deck includes an annular lip extending axially downward from the central orifice providing additional inner circumferential surface area for sealing about the plug when the spout is in the closed position.

12. The closure of claim 11, wherein the deck is flexible and substantially resilient.

13. A closure for a container adapted to contain a liquid comprising:

a base adapted to be attached to an opening of a liquid container, the base including a conduit extending therethrough that is adapted to be in fluid communication with liquid contents of the liquid container when attached to the opening of the liquid container, and the base further including a substantially tubular spout guide defining at least a portion of the conduit, the base further including an annular deck extending radially inwardly from an inner circumferential surface of the base defining a central orifice in fluid communication with the conduit; and

a substantially annular spout mounted to the tubular spout guide for reciprocation at least between an open position and a closed position, the spout including (a) an annular wall and (b) a plug positioned radially within the annular wall;

the plug having a leading end and an annular, outer circumferential seal surface that is received within, and plugs the central orifice of the deck when the spout is in the closed position and that is removed from the central orifice deck when the spout is in the open position; and

the deck has a shape in an elevational cross section taken from a group consisting of: a substantially concave shape and a substantially convex shape.

14. The closure of claim 13, wherein at least a substantial portion of the outer circumferential seal surface of the plug is axially recessed or flush with respect to the annular wall of the spout, whereby the annular wall of the spout protects the substantial portion of the seal surface from damage during the molding and assembly operations.

15. The closure of claim 14, wherein the outer circumferential seal surface has a shape taken from a group consisting of: (i) a smooth cylindrical shape having a substantially constant diameter, and (ii) a smooth frustoconical shape having a diameter that widens with the distance from the leading end, whereby the plug is less susceptible to damage when the spout is axially ejected from a mold after a molding operation.

16. The closure of claim 13, wherein the annular wall of the spout is an outer annular wall of the spout.

17. The closure of claim 13, wherein the spout is threaded to the tubular spout guide so that the spout is twisted with respect to the base to reciprocate the spout between the open and closed positions.

18. The closure of claim 13, wherein the base includes:
an internally threaded, substantially cylindrical wall for threading onto a throat of a correspondingly threaded container; and
an annular top surface extending radially inwardly from the internally threaded, substantially cylindrical wall;
wherein the tubular spout guide extends coaxially upwardly from the annular top surface; and
wherein the annular deck extends from an inner circumferential surface of one of (x) the internally threaded, substantially cylindrical wall, (y) the annular top surface, and (z) the tubular spout guide.

19. The closure of claim 18, wherein the deck is flexible and substantially resilient.

20. A closure for a container adapted to contain a liquid comprising:
a closure assembly adapted to be attached to an opening of a liquid container, the closure assembly including a base and a spout extending from the base, the closure assembly providing a conduit extending therethrough, when the closure assembly is opened, that is adapted to provide fluid communication with liquid contents of the liquid container and an outlet opening of the spout;

a substantially cup-shaped overcap having an annular rim and an annular tamper band extending from the rim by frangible bridges, the overcap being coupled to the base of the closure assembly over the spout by at least an engagement of the tamper band with the base of the closure assembly upon initial assembly of the closure; and

an upward bias provided between the overcap and the closure assembly, the upward bias being overcome, at least in part, by the frangible bridges when the tamper band is connected to the overcap, and the upward bias lifting the overcap upwardly with respect to the tamper band when the frangible bridges are broken during an initial removal of the overcap.

21. The closure of claim 20, wherein the upward bias is provided by a bias member of the overcap.

22. The closure of claim 21, wherein the overcap includes a substantially cylindrical or conical outer wall and a top wall, wherein the top wall is

substantially concave and is substantially flexible and resilient to provide the bias member that biases against an upper end of the spout of the closure assembly.

23. The closure of claim 22, wherein the bias member extends downwardly from an upper inner surface of the overcap to bias against the closure assembly.

24. The closure of claim 21, wherein the bias member is a projection extending downwardly from an inner surface of the overcap to bias against the closure assembly.

25. The closure of claim 24, wherein the bias member is a projection which extends at least partially in a vertical direction to bias against a deflecting surface of the closure assembly that extends at least partially in a vertical direction, wherein the radial position of the bias member and the deflecting surface of the closure assembly interfere with one another to cause the bias member to deflect upon initial assembly of the closure.

26. The closure of claim 25, wherein the closure assembly includes a catch or a groove above the deflecting surface of the closure assembly to capture the bias member when the overcap is reattached to the closure assembly after the initial removal of the overcap.

27. The closure of claim 25, comprising a plurality of the bias members and a respective plurality of the deflecting surfaces.

28. The closure of claim 27, wherein the plurality of the bias members and the respective plurality of the deflecting surfaces are circumferentially arranged with respect to one another.

29. The closure of claim 25, wherein the deflecting surface is provided on the spout of the closure assembly.

30. The closure of claim 20, further comprising a coupling for reattaching the overcap to the closure assembly after initial removal of the overcap.

31. The closure of claim 30, wherein the coupling includes an annular groove provided on a first one of the overcap and closure assembly for receiving an annular lip on the other one of the overcap and closure assembly.

32. The closure of claim 30, wherein the coupling includes at least one radially extending groove provided on a first one of the overcap and closure assembly for receiving an radially extending projection on the other one of the overcap and closure assembly.

33. The closure of claim 20, wherein the spout and base of the closure assembly are separate components, and the spout is coupled to the base to reciprocate between and open position to provide the fluid conduit and closed position to plug the fluid conduit.

33. The closure of claim 20, wherein:
the frangible bridges have a vertical height;
the upward bias lifting the overcap upwardly with respect to the tamper band when the frangible bridges are broken during an initial removal of the overcap provides a vertical gap between the overcap and the tamper band; and
the vertical gap is larger than the vertical height of the frangible bridges to provide a visual indication to a consumer that the overcap has been initially removed from and reattached to the closure assembly.
34. A closure for a container adapted to contain a liquid comprising:
a closure assembly adapted to be attached to an opening of a liquid container, the closure assembly including a base and a spout extending from the base, the closure assembly providing a conduit extending therethrough, when the closure assembly is opened, that is adapted to provide fluid communication with liquid contents of the liquid container and an outlet opening of the spout;
a substantially cup-shaped overcap having an annular rim and an annular tamper band extending from the rim by frangible bridges, the overcap being coupled to the base of the closure assembly over the spout at an original height with respect to the base by at least an engagement of the tamper band with the base of the closure assembly upon initial assembly of the closure, the tamper band being engaged with the base such that the frangible bridges are broken during an initial removal of the overcap; and
a coupling for reattaching the overcap to the closure assembly after initial removal of the overcap at a vertical height with respect to the base

that is higher than the original height to provide a visual indication that the overcap has been initially removed from and reattached to the closure assembly.

35. The closure of claim 34, wherein the coupling includes an annular groove provided on a first one of the overcap and closure assembly for receiving an annular lip on the other one of the overcap and closure assembly.

36. The closure of claim 34, wherein the coupling includes at least one radially extending groove provided on a first one of the overcap and closure assembly for receiving an radially extending projection on the other one of the overcap and closure assembly.

37. A closure for a container adapted to contain a liquid comprising:
a closure assembly adapted to be attached to an opening of a liquid container, the closure assembly including a base and a spout extending from the base, the closure assembly providing a conduit extending therethrough, when the closure assembly is opened, that is adapted to provide fluid communication with liquid contents of the liquid container and an outlet opening of the spout;

a substantially cup-shaped overcap having an annular rim and an annular tamper band extending from the rim by frangible bridges, the overcap being coupled to the base of the closure assembly over the spout by at least an engagement of the tamper band with the base of the closure assembly upon initial assembly of the closure, the tamper band being spaced

from the overcap by an original vertical height upon initial assembly of the closure, the tamper band being engaged with the base such that the frangible bridges are broken during an initial removal of the overcap; and

a coupling for reattaching the overcap to the closure assembly after initial removal of the overcap at a vertical height with respect to the tamper band that is higher than the original height to provide a visual indication that the overcap has been initially removed from and reattached to the closure assembly.